approach

DECEMBER 1980 THE NAVAL AVIATION SAFETY REVIEW

By Russ T. Forbush and D. Jack LaBar

I'll Be Home For Christmas (maybe)

I'll be home for Christmas
You can count on me –
I'll drive right
I won't get tight
Safe is what I'll be.

While driving through the snow
In a brand-new Chevrolet
Without the chains we go
Skidding all the way –

Brakes on ice do fail
As red lights up our tail
Our shoulders hunch
Our fenders crunch
And all our faces pale!

If you're dreaming of a safe Christmas
Make sure tree lights are off at night
Treat extension cords with caution
Keep loading in proportion
And your Yuletide will be bright.

Rudolf, the red-nosed reindeer,
Got snockered on some Yuletide sauce,
He slammed Santa into a chimney
Which made the trip a total loss!

(Continued on inside back cover.)

Vol. 26 No. 6

approach

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APPROACH artist Blake Rader painted the A-6 Intruder at the end of a catapult shot for this month's cover.

A Flight to Remember 2
The lesson to be learned from this mishap is as old as aviation itself.

Lights, Camera, Action! 10
By LCDR Ken Kinney. You too can get into the movie-making business.

The Naval Aviation Safety Program 18
The new OPNAVINST 3750.6M will have some major innovations.

Airbreaks 6

Touch-and-Go With the Grim Reaper 8
By LT Gordon Heyworth

Bravo Zulu 13

Night Tanker 14
By LT F. A. Hoggatt

LT Rick Lipchick's 12 Days of Christmas 16

Observations of an Aviation Safety Officer 23
By LT K. R. Edwards

The Office Obstacle Course 24
By Derek Nelson

Park at Your Own Risk 27

Survival/Postbailout Procedures 28
By CDR Jack Greear, MSC

Fire in Flight Prevented 31

Letters 32

RADM W. B. Warwick, Commander, Naval Safety Center

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A FLIGHT to

THE pilot and copilot (also pilot-in-command) of an E-2B completed CARQUALs and departed the carrier on an IFR flight plan in IMC. It was late afternoon. The *Hawkeye* had about 6,500 pounds of fuel onboard and final destination was NAS East Coast. En route to the beach, IFF checked good and all radios and the radar altimeter appeared to be operating normally. After handoff to Approach Control, the aircraft descended to 2,100 feet and was positioned about 10 miles south of NAS East Coast. Weather at the NAS was 500 feet scattered, 700 feet overcast, 3 miles in fog, and wind 240 at 12.

Suddenly, the UHF radios went dead and the TACAN and radar altimeter were lost. The copilot immediately switched the IFF to emergency (not knowing the IFF was inoperative) and put UHF-1 on Guard. At the same time, the pilot commenced a climb. Passing 10,000 feet, the E-2B was above the overcast. The copilot attempted to reestablish two-way UHF voice communications and to tune in several nondirectional radio beacons on the LF/ADF equipment. Finally, the pilot was able to pick up a good ADF signal from a commercial radio station located about 80 miles northwest of the aircraft's position. The pilots decided to head in that direction, even though the preflight weather brief recommended southern alternates since weather to the north and west was solid IMC. Both pilots tried unsuccessfully to use their PRC-90 survival radios to gain voice communications with anyone.

On the ground, FAA approach controllers and ARTCC were aware that the E-2B was NORDO. During this period, the copilot went aft in the aircraft and determined that all the CBs were in. The equipment felt cool, and the blower appeared to be operating. He set all UHFs on Guard and returned to the cockpit. The *Hawkeye* was now at 16,000 feet, flying a Bingo profile. At this time, the pilots discussed various alternatives and decided to continue on, mark on top the commercial radio station, and then DR navigate north to another naval air station. Upon arrival at the dead reckoned position, the pilots were unable to pick up the air station NDB, and the overcast prevented a visual sighting of any airfield in the area.

The pilot headed the aircraft west in an attempt to use the ARD-13 to pick up other airports in the area, but could not get anything below 1,000 MHZ. At this point, the pilot went aft and unsuccessfully attempted to use the HF and UHF radios. The aircraft taxi lights were used to flash SOS signals in the hope that a passing aircraft would report this and an aircraft would be launched to assist the E-2B.

The next decision made was to turn east and descend to minimum en route altitude for the area. Upon reaching the MEA of 1,500 feet, the aircraft was still in the soup. The pilot turned to a northwest heading and began a climb to 17,000 feet. The copilot then went aft to see if he could get the ARC-94 HF radio to operate. After about 10 minutes, he got the HF transmitting on the upper sideband frequency assigned to a midwestern AFB. The pilot transmitted a PAN report, and shortly thereafter, the AFB answered. This was the first radio contact for the E-2B in almost 1½ hours.

Darkness was rapidly setting in, and the *Hawkeye* was down to 2,500 pounds of fuel and burning about 1,600 pounds an hour. The copilot (plane commander) was back in the cockpit when an F-106 arrived to assist. The AFB had transmitted an alert to all stations to stay off the air and had arranged for the scramble of the F-106. The pilots of the E-2B maintained two-way voice communications with the AFB on HF. The AFB in turn relayed information to Big City Center, who further relayed this information to the airport that was controlling the F-106.

The F-106 intercepted the E-2B and three times tried to get

REMEMBER

the E-2 to follow down to a landing. The AFB instructed the E-2 pilots to follow the F-106, but the E-2 pilots failed to respond and repeatedly requested vectors to the airfield. With no luck on the intercepts, the AFB commenced relaying approach instructions from the airfield to the E-2B. (Approximately 30 minutes had elapsed since initial voice contact between the AFB and the *Hawkeye.* The sky was now totally dark, and the E-2B was down to about 1,600 pounds of fuel.)

The AFB advised the E-2B crew that they were southeast of the landing airport heading due north. A few minutes later, the AFB reported the aircraft to be 20 miles northeast of the airport and told the pilot to take up a heading of 170 degrees. The E-2B was cleared to an altitude of 6,000 feet and landing instructions were given for Runway 22. The pilot asked for and received the following weather at the field – 1,200 scattered, 1,500 overcast, and 7 miles visibility in rain. About 9 minutes later, the E-2B crew was advised that their position was 10 miles northeast of the airport. The AFB assigned a heading of 230 and, shortly thereafter, changed the heading to 210. During the next 5 minutes, the E-2B closed to within 4 miles east of the airport, and the pilot was told to descend to 4,000 feet. The E-2B rogered the altitude change and, seconds later, reported "Level at 4." This would be the last transmission anyone would hear from the *Hawkeye.*

Meanwhile, back in the *Hawkeye* cockpit, the pilots were really having their problems. While descending to 4,000 feet for landing at the designated airport, the port low-level fuel light came on. The pilot activated the left clock. A period of several minutes passed without communications between the E-2B and the AFB. During this time, the pilot pulled up the door jettison handle, cleared the aisle, and left the cockpit door open. At this point, the starboard low-level fuel light illuminated, and the pilot started the right clock. The crew

then had a discussion and agreed to bail out at the first sign of engine failure.

Moments later, the port engine started winding down, and the copilot asked the pilot to feather it, which he did. Remaining fuel indicated 300 pounds left and 600 pounds right. A few seconds had elapsed when the starboard engine fell to 97 percent and the emergency generator came on (about 6 minutes after the low-level fuel light lit up). The pilot then asked the copilot to attempt a relight of the port engine – no joy. At this point, the copilot (pilot-in-command) said, "Let's go" to the pilot, and he responded, "OK." The copilot departed the cockpit first. As he left, he noted that the pilot appeared ready to leave since his left hand was on the yoke and his right hand was in the vicinity of the seat release handle. The copilot bailed out and parachuted safely to the ground below. Unfortunately, the pilot didn't make it. His body was found near the wreckage of the E-2B.

This accident should never have happened, but since it did, the following safety lessons should be considered:

• Towards the end of the final CARQUAL period, the E-2B UHF radios became very weak. After trapping and repositioning, maintenance technicians checked the CNI (comm/nav/ident) package and found the cooling hose disconnected. The clamp holding the hose to the output side of the blower was not the correct part (would not hold the hose securely) and resulted in the loss of cooling air to the CNI package (i.e., UHF-1, UHF-2, TACAN, and IFF/SIF). Nevertheless, the technicians reseated the hose with the improper clamp. The hose more than likely came loose again in flight, since no hose remnants were found when the CNI blower and clamp were located together in the E-2B wreckage. A new UHF-2, which had been checked good in another aircraft, was also installed at this time.

• The pilots failed to activate the CNI blower override switch. Had they done so, use of the UHF-2 probably could have been regained. Knowing they had a CNI package problem, the pilots were remiss in not consulting the E-2B NATOPS Manual, which was in the aircraft, and reviewing the section dealing with the function of the CNI blower override switch. Regaining UHF-2 would have allowed the pilots to make a successful GCA approach to NAS East Coast and prevented the loss of the pilot and aircraft.

• Shortly before losing communications, the pilots of the *Hawkeye* were given local weather as 700 feet overcast and 3 miles visibility with fog. This weather, in an area familiar to the pilots, should have been adequate for a safe overwater descent to VMC underneath followed by a successful approach and landing. Had the pilots failed to visually sight an airfield,

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The pilots received a strong ADF signal from a commercial radio station to the northwest and decided to head for it rather than remain in the local area. This decision to leave a familiar operating area started the chain of events which ultimately led to disaster.

a climb could have been executed back to VMC on top. The pilots, however, had received a strong ADF signal from a commercial radio station some 80 miles to the northwest and decided to head for it rather than remain in the local area. This decision to leave a familiar operating area started the chain of events which ultimately led to disaster.

- In heading northwest, the pilots took their aircraft into the area where weather was forecast to be the worst. The forecast had indicated the best weather would be to the southwest.
- As the *Hawkeye* proceeded northwest, local Approach Control correctly assumed that the aircraft was NORDO and the controller initiated action to secure the services of intercept aircraft. Unfortunately, before an assist aircraft could be launched, the E-2 had reached the commercial radio station and commenced heading north into a high-density area.
- The pilots' failure to follow the F-106 and, instead, request vectors relayed through a midwestern AFB was poor headwork. With fuel extremely critical and the weather bad, following the F-106 would have been the most expeditious means for a safe landing.
- The pilots had agreed to bail out at the first sign of engine failure. It's reasonable to believe that had both pilots complied with this decision, the pilot would have had time to actuate his parachute and safely descend to the terrain below. The copilot failed to exercise his responsibility as the aircraft commander by not directing the pilot to bail out first.
- At no time was a *bona fide* emergency declared by the pilot, even after radio use was regained. Also, no fuel state updates were given to the AFB after the initial report. (The original report by the pilot indicated 1 hour and 15 minutes of fuel remaining. The engines quit due to fuel starvation 37 minutes later.)

A life and an aircraft were lost in an accident that never should have happened. This was an accident in which pilots compounded errors over a 2-hour period and, despite several opportunities for a safe conclusion, made either no decision or the wrong decision. The lesson to be learned from this tragedy is as old as aviation itself: lack of knowledge of the aircraft systems, NATOPS procedures, and basic meteorology, coupled with the inability to make a proper decision and stick with it, is a deadly combination. ◄

air breaks

Watch Out! While conducting night, touch-and-go landings aboard an LSD, the replacement pilot requested to land in order to switch copilots.

The ship had spotted two practice VERTREP loads on deck. The tower advised there would be a 5-minute delay in order to clear the landing area. About 5 minutes later the tower advised that the deck was green and the helicopter was cleared to land.

The pilot made a normal approach, using the LSE signals, and came to a hover over the starboard lineup lights. The LSE gave the pilot the signal to land. The pilot applied down collective, to land from a hover, when he saw a hookup man with pendant (as well as both practice loads) below the helo and just to the right and forward of the starboard lineup lights.

The pilot took an immediate wave-off and slowly moved away from the deck and advised the tower. The tower response was, "Red deck, stand by."

The potential for disaster was tremendous. The fact that disaster did not strike was due to the pilot's alertness in seeing the hookup man under the helicopter. The need for coordination and communication between shipboard towers and the flight deck is a matter of upmost importance. The need for extremely vigilant pilots and copilots is obvious. File this under: Handwriting on the Wall!

Spread Your Wings. Alertness on the part of tower operators AC1 Gary Slater, AC2 Bobby Gray, AC2 Nancy Alder, and AC3 Michael MacGregor prevented a potentially disastrous situation from occurring recently at NAS Cubi Point. The pilot of an A-7E requested and was given clearance to taxi to the duty runway for takeoff, with the intention of entering the FCLP pattern. It was dusk and visibility was poor; however, the ground controller noticed that the aircraft's wings were folded on taxi, and made specific mention of it to the other tower operators. Though the pattern was extremely busy, the tower supervisor had the presence of mind to keep the A-7 in sight with binoculars until he requested takeoff clearance. As the pilot transmitted his takeoff request, the tower local controller reminded him to check his wing position.

As a result of the timely alert, the *Corsair* pilot immediately extended his wings and executed an uneventful departure. Later, the pilot of the A-7E called to express his appreciation to the controller and said if it hadn't been for the tower's warning, in all probability, a wings-folded takeoff would have resulted. In addition to the gratitude of the pilot, APPROACH congratulates and commends tower operator AC1 Gary Slater and his watch section for their alert recognition and professional crew coordination – taking action which probably averted a tragic accident. Attaboy and Attagirl to you all.

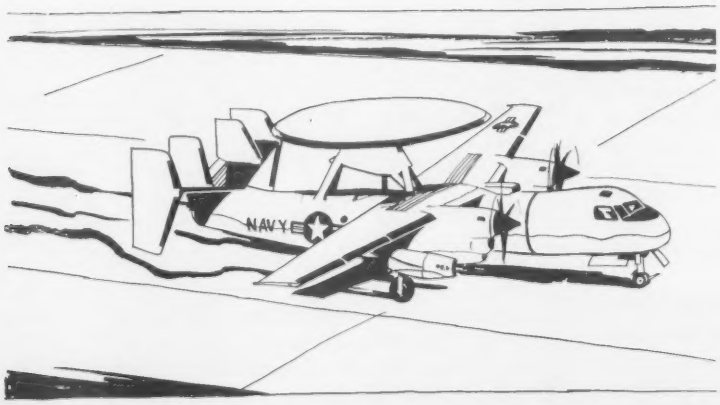
What Lights? During a field landing, the E-2C's master caution light illuminated on touchdown, indicating a faulty computer which had failed earlier in the flight. *The pilot chose to extinguish the MCL at this time.* Shortly after touchdown, the aircraft swerved left. Full right rudder and heavy right brake had to be used to keep the *Hawkeye* on centerline. Upon application of reverse thrust, the aircraft again started a rapid left drift. Also, the pilot noticed that the port brake was spongy and smoking. Differential reverse thrust and nosewheel steering managed to keep the aircraft approximately on centerline. The decision to make a full length rollout was made. The control difficulties continued as the E-2 fishtailed down the duty. The copilot then took control, in an attempt to keep the aircraft on or close to centerline, as the pilot tried to diagnose the problems of the errant *Hawkeye*. The port and starboard reverse thrust indicators read 104 percent and 100 hp! Power levers were then moved to ground idle, and judicious use of the fading brakes maintained the aircraft near centerline.

The problems were not over yet.

After turnoff, at the end of the 7000-foot runway, the crew noticed that reverse thrust did not slow the E-2 as advertised! Using whatever brakes he had left, the pilot brought the plane to a stop and allowed the brakes to cool down. At that time, and not before, he noticed *both starboard propeller pump lights were on!* The copilot noticed the lights too, and secured the starboard engine by moving the condition lever to ground stop. The port engine was secured normally, and the wild ride of the *Hawkeye* was over.

Postflight inspection revealed the starboard brake had fused, and that pitchlock had occurred on the starboard engine. The pilots, concerned with the directional control problems, did not correlate the MCL with the pump. Although a substantial amount of prop fluid was lost, it was still within limits. Later attempts to feather the prop by maintenance personnel were unsuccessful. As a result, the prop, pumps, and valve housing were changed. No further problems were encountered; however, the overall cause was undetermined.

Prematurely extinguishing caution/warning lights has plagued us from time to time. Pilots have been known to remove chip lights, firewarning lights, and just about any other light that was put in an aircraft. Lowering the intensity of the lights may be excusable in certain cases, but to extinguish (by whatever means) any light that indicates there is an emergency forthcoming, or in existence, defies the laws of common sense. This crew could just as well have ended up in a ball on the side of the runway, but their aviation abilities were one step ahead of their reasoning abilities. Pilots and crews alike — those lights were installed for a purpose. Don't try to shortcut the system or *your* lights may go out — permanently.



Short Snorts

By CDR Dave Luehring
NAS Barbers Point

ITEM: A naval aviator embarked as a passenger in the rear seat of a flying club T-34B failed to tighten his seat-belt sufficiently and, as a result of turbulence, was thrown violently upward, his head shattering the canopy.

Item: A naval aviator with about 10,000 pilot hours (including 2000 in light aircraft) permitted a pilot under instruction (PIU) to bounce more than twice in landing a tailwheel aircraft (Citabria) and, as a result, curled back 3 inches of each prop blade.

Item: A naval aviator, currently qualified in F-4s, landed a Cessna 172 so hard on the nosewheel that he curled back 2 inches of each prop blade, yet somehow managed not to collapse the nose gear structure.

Each of these three instances occurred because a pilot who should know better treated light aircraft without appropriate respect. The moral of the story is that you can get killed just as dead, or have your pride wounded just as much, in a Beechcraft, Bellanca, or Cessna as in a P-3, F-4, or any other military aircraft.

Hazardous Cargo. The C-130 crew taxied into the terminal area to onload one AH-1J. The transport crew sighted the special handling data certification form and noticed the helicopter was ready for shipment.

Immediately after takeoff, fuel began leaking from the AH-1J fuel vent drains. The C-130 had climbed to 3000 feet when the fuel fumes saturated the aircraft. The C-130 crew initiated smoke and fumes elimination procedures and returned for landing.

Troubleshooters found that the AH-1J fuel tanks were full. The helo had been scheduled to fly a test flight, and burn down, before shipment. However, the helicopter developed mechanical problems and never took off. It was disassembled and trucked to the shipping point. Defueling was overlooked. The same day this was reported, another fuel spill occurred in another C-130 from a helicopter engine being shipped.

Adequate procedures exist to ensure that safe packaging and precautions are taken prior to air shipment of hazardous cargo by the unit requesting the shipment. *All applicable units requesting movement of hazardous cargo should review and ensure compliance with applicable directives.*

Touch-and-Go with the Grim Reaper

By LT Gordon Heyworth
VF-171
Det Key West

THE stench of jet exhaust and scorched tires and the deafening roar of a *Phantom*, just snatched out of the blackness, drift down the flightdeck. Four sets of eyeballs return seaward, scanning the glide slope for the next triangle of lights above an unseen horizon. "Geez, he's below the . . ." LSO-1 stopped short and keyed the UHF, "201, watch your altitude!"

The lights continue to settle slowly below the planeguard's masthead light.

"201, watch your altitude! . . . Don't go lower! . . . CLIMB!" pleaded LSO-1. Frustration, horror, and grief pervade the platform as the *Phantom's* lights are snuffed out 1½ miles behind the carrier; with them go the lives of its crew.

Setting: The office of the Grim Reaper – two aviators in wet flight gear.

Reaper: Holy meatball, line-up, angle-of-attack! Let me guess . . . night CCA . . . yep. Been gettin' a lot of you guys over the years. Can spot 'em a mile away. No pun intended!

Pilot: I hardly think . . .

Reaper: Yeah, yeah. Don't like me making light of your misfortune? Tell me, Sport, anything mechanically wrong with that airplane you flew into the drink?

Pilot: Why, no, but . . .

Reaper *(to RIO)*: And you, young fella, I suppose you were just along for the ride?

RIO *(protesting)*: No, sir . . . my instrument lights didn't . . .

Reaper: Lights, schmights! That doesn't change a thing, does it? You two flew into the water. Look, I've been at this business a long time and I've seen more young, capable guys in front of me because of a moment's breakdown in instrument scan or just plain poor flight discipline. After witnessing so many ramp strikes and other senseless fatalities like your own, one just stops feeling sorry for the victims. You guys are responsible for your demise.

Pilot: Well, I had a lot of help.

Reaper: All right, self-righteous one, let's hear your story. *(Aside – You can always tell a fighter pilot, but you can't tell him much.)*

Pilot: In retrospect, I suppose the deck was stacked against us. But if I thought it would come to this, I'd have blown the whistle. The ol' can-do spirit got us, I guess.

Reaper: How so?

Pilot: Well, we started bouncing for this REFTRA 26 nights ago, my last three double FCLP periods having been the 7th, 9th, and 10th nights.

Reaper: I'm confused. Get to the point.

Pilot: What it boils down to is that I haven't had a night bounce period or a night hop in the past 17 days. I did all right at the boat yesterday and this morning, getting my one touch-and-go and 5 day traps, but that 17-day layoff sure caught up with me tonight. It wasn't like we weren't scheduled during that 17 days. In fact, we briefed five of the nine preceding nights. Briefs started anywhere between midnight and 0200. Problem was, maintenance was strapped for parts. We were low supply-priority 4 months prior to deployment. No jets – no fly.

Reaper: Sounds grim . . .

Pilot: . . . to the tune of having only one or two "up" aircraft a night after a full day's schedule.

Reaper: Did you bring this to anybody's attention?

Pilot: Yeah . . . I talked to the Ops officer, but I was preaching to the choir. No one was getting his periods flown, and there were more junior pilots than I who were understandably higher priority. 'You can hack it,' the Ops boss said. Of course, I agreed. Boy, were we wrong.

Reaper: The record is written in blood.

Pilot: That's not all. The clincher was that the bird we launched in had no instrument lights in the rear cockpit.

Reaper: Bad idea. So the young RIO here *was* along just for the ride.

Pilot: Well, we didn't want to miss our overhead and have to come out to the ship again tomorrow night. I like being home at night as much as the next guy. At least I *used* to.

Reaper: Instrument lights . . . I don't understand how that alone . . .

Pilot: It wasn't just that. It was, typically, 'all the wrong things happening at the right time.'

Reaper: How so?

Pilot: Off of a bolter, I established a good rate of climb toward 1200 feet and then commenced my downwind turn, shifting attention to roll-out heading, abeam position, etc., anticipating our next approach. Noticing that I had ballooned up to 1800 feet, I eased it down to 1400 (my usual 1200+200 gravy). On base leg, the ship called for a descent to 600 feet for a surveillance approach, at which time the TACAN started

spinning. The final bearing also was changing, so here we were in a rate of descent, turning inbound, looking outside for the ship and lineup lights. If that wasn't enough, remember ballooning to 1800 feet? Make that *800*. Yep, I misread the altimeter by 1000 feet in my haste to turn downwind and preoccupation with everything else. My descent out of 1400 for 600 was actually out of 400 for . . . well, you know the rest. If only *Paddles* could have called a few seconds earlier.

Reaper: Famous last words. You know . . . [phone rings] . . . excuse me . . . Reaper here . . . yes sir . . . yes sir, they're right here in front of me . . . I see . . . right away, sir. [Hangs up phone.] You guys are in luck. I have it from higher up that you're going back and recover your aircraft at 200 feet when the LSO first called you. This is extraordinary, but it happens on occasion . . .

Pilot: You mean? . . .

Reaper: I mean get your butt on the gages, wave off, and take that aircraft home. You get a good night's rest 'cause you've got to finish quals tomorrow night. Oh, and while you're at it, why not share this experience with your cohorts.

Pilot: Roger that!

Back on the platform

LSO 1: . . . Wave it off, 201 . . . What's the problem?

CATTC: 201, climb and maintain 1200. Upon reaching, turn left 270.

201: 201 is RTB for cockpit lighting failure.

CATTC: Roger, 201. Signal Bingo; gear up; hook up; steer 282 for 78.

201: 201, Wilco.

The story above is fictitious where obvious. All other details are true. In fact, the LSO calls were received in time to avoid needless catastrophe. The author will be forever grateful for this service from the platform. ◀

Lights, Camera, Action!

By LCDR Ken Kinney
VR-56

LCDR Walt McGhee (left, standing) directed the men and women of VR-56 who acted in the video tape production.

THE engine fire alarm bell made a deafening sound in the instrument-jammed cockpit of the C-9B aircraft.

"Silence the bell," the pilot shouted, "We've got a fire in the No. 2 engine!" The copilot reached forward to shut off the bell and called to the crew chief, "Start the engine shutdown checklist!"

Back in the cabin of the aircraft, a passenger looked around nervously at the sound of the bell. He heard the engine winding down. Another passenger placed her hands in a praying position in front of her face. The flight attendant was getting a cup of coffee in the aft galley when he heard the alarm. He knew what the bell meant and reached for the

intercom.

In the cockpit, both the pilot and copilot were going through their emergency procedures. Suddenly, the alarm sounded again.

"There goes No. 1!" the crew chief called out,"The fire is out of control! We're too far from ditch, we'll have to . . . oh no!" Immediately, the pilot threw back his head and laughed uproariously.

A new voice joined the chaos. "Hold it. Cut. Let's take it again from the top."

What kind of a ditching is this where the pilot suddenly cackles like a man gone mad and someone else orders, "Let's take it again from the top"? Fortunately, it wasn't a real ditching. The plane was parked on the ramp and the unseen voice belonged to a television director. He and a crew from Audio Visual Unit 0186, NARU Norfolk were jammed into the cramped C-9 cockpit to shoot a scene for a forthcoming video training aide, "Ditching at Sea for C-9B Aircrew Members." The project originated months before at VR-56, NAS Norfolk.

"Our active duty and reserve aircrews are familiar with ditching procedures," said CDR Russ Kuhl, VR-56 Training Officer, "but we have new members coming in here who may not have seen the inside of a liferaft for years." The video tape on ditching is designed primarily for recurrent training, according to CDR Kuhl, "but our new aircrew personnel can also benefit from watching it."

The original concept of a video tape training aid on ditching evolved from the VR-56 Water Survival/Ditching Drill Improvement Program which was instituted to supplement the triannual swim qualification and ditching drill exercises. The idea of making a video tape production came easy, but this was not an overnight project.

A written request to the Audio Visual Detachment, NARU Norfolk had been submitted 9 months earlier. A written proposal which outlined goals, equipment, personnel requirements, objectives, and background material was part of the proposal package. After the project was approved, a script writer, JO1 J. Wandres, from Atlantic Fleet's Reserve Combat Camera Unit (AVU 0193) at NAS Willow Grove, PA came on 2 weeks active duty.

All necessary procedures for use of the liferaft were covered in the production.

In civilian life, JO1 Wandres is a freelance writer. "Writing a script is a little like building a house," he explained. "The project starts with an architect who interprets the wish of the client." Wandres states that certain writing procedures are always followed but that each script is a unique creation.

"Once the basic concept is okayed, the rest is just . . . putting together pictures and scenes in my mind and fitting these to the narration," says Wandres. The ditching script went through five rewrites and 2 weeks of hard work before being given final approval by the squadron's training department.

The director then put the scriptwriter's creation into action. Walt McGhee is Manager of Development for a Richmond, Virginia Public Television Station. As a Naval Reservist, LCDR McGhee is commanding officer and head video director for AVU 0186 in Norfolk, Virginia. It was his

The location of emergency equipment after a C-9 ditching was another area highlighted in the video tape.

task to coach and direct the "talent" – the men and women reservists who served as actors in the tape. He also had to be flexible in adjusting his shooting schedule around the operational requirements of VR-56.

The entire evolution, excluding the period awaiting for project approval and ACDUTRA scheduling, took over 5 weeks. Although reserve experts in the audiovisual field were used, a similar project is not completely outside the capabilities of any squadron having access to video tape equipment. The most technical part was the editing phase, which took three technicians 6 days at 18 hours per day to complete. With proper planning, good rehearsal, and a lot of luck, the editing requirement could be eliminated for short presentations.

The ditching video tape will be added to the existing library of training tapes held by VR-56. Duplicates will be made by the audiovisual specialists at Naval Air Reserve Unit, Norfolk and distributed to other Naval Reserve C-9 squadrons for use in aircrew training programs. The video tape medium is an indispensable tool to any training program. It is cost effective, always available, and fairly easy to use.

Existing training flicks do not fill the "gap" between survival theory and the triannual swim. Due to cost restrictions, it is impossible to inflate a raft quarterly so that all aircrew can receive "hands-on training" of this survival equipment. The video tape production can fill this training gap and familiarize aircrews with the survival tools available to them. Along with familiarity comes confidence; with confidence comes the ability to react logically and effectively in an emergency situation. The bottom line is – get the people out safely, and give them a chance to live once they have egressed.

Many wings and ships have the capability to produce such safety enhancing visual aids. Video presentations communicate far beyond the capabilities of the standard safety poster. The application of this medium goes as far as the imagination (and your creativity) can take it. You may want to highlight one safety problem for a specific month and create a tape presentation to simulate discussion of the topic. The next month, a new subject recorded over the same cassette can be presented.

The completion of such a project takes work. It takes time, coordination, and planning. Most of all, it takes a driving force that recognizes the need for dynamic solutions to safety and training problems. It also takes someone that will get the job done, now. Does that sound like something you heard at Monterey, Mr. ASO? ◄

Hours of tape were shot and then edited to achieve the smooth version of "Ditching at Sea for C-9B Aircrew Members."

BRAVO ZULU

Maj G. E. Johnson, USMC

DURING a night, instrument flight in a UH-1N, Maj G. E. Johnson had just assumed control of the aircraft on turnout from a GCA. As he increased collective to climb back to traffic pattern altitude, noises were heard emanating from the transmission area and a decrease in N_f was noted.

At this point, Maj Johnson turned toward the nearest land while attempting to maintain N_r and altitude. With N_r decreasing, he attempted to restore it by repeatedly lowering the collective to give the N_r a chance to rebuild. During the final attempt at rebuilding N_r, the N_f pegged well above 110 percent and N_r continued to decrease. Surmising correctly that the main transmission had failed, Maj Johnson was now faced with the classic helicopter "worst case" — an unilluminated night autorotation into the sea.

Due to the placement of his hand on the collective to operate the throttles, Maj Johnson could not reach the landing or searchlight switches to turn them on. He used all available visual clues, plus the radar altimeter to gage altitude for his flare and pitch pull, and entered the water in a level attitude at approximately zero forward airspeed. Although the aircraft was destroyed after striking a submerged coral head and flipping over on its side, the autorotation was of sufficient quality that all crewmembers were able to egress immediately and make their way ashore unassisted.

With this superior display of personal ability, Maj Johnson saved a crew of three from death or serious injury and allowed them the extra margin of time so critical in a ditching incident. For professional competence when it counted, **well done!**

NIGHT TANKER

RECENTLY qualified as a full-fledged tanker pilot, LTJG Charles Charger arrives for his night tanker brief right on time – not a minute early or a minute late. Having flown his tanker qual hop the day before, Charlie is confident and in good spirits since now he's eligible to bag a few extra traps in the tanker. Charlie has gotten all the *gouge* on tanker operations and knows if he follows his checklists carefully the flight will go smoothly.

Preflight and man-up for the pinky launch are uneventful and reassuringly smooth. Off the cat, Charlie checks in with Tanker Control with his fuel state and give (fuel available). "Roger 303, take angels 7 and consolidate give to 520." Charlie thought, all I have to do is give my fuel away and I'm free for a little AIC work with the fighters.

Charlie expeditiously gives away all his external fuel and checks in with strike control for an airborne intercept mission. After a few engagements with the fighters, Charlie realizes that the night has become very black and has no horizon. No problem, he'll check in with Marshal a little early and start psyching himself up for an OK pass. He just wants to make sure he doesn't get a tanker 1 wire. "Strike, 303 checking inbound; my state's 6.5."

"Roger 303, you're cleared to switch to Tanker Control."

–"Tanker Control, 303 checking in with zero give."

"Roger 303, take angels 6.0 and consolidate 520's give."

What the hell's going on, wonders Charlie, why can't 520 give away his fuel to the oncoming fighters? He must be having airplane problems. Charlie finally joins on the A-6 tanker 10 minutes later to begin consolidation; meanwhile the launch has begun.

After taking on 4,000 pounds, Charlie checks in with a give of 4.0. "Roger 303, take angels 6.0; you're the recovery tanker, 520 switch to Approach Control; you're charlie." Charlie suddenly realizes he has no fuel in the tanker store and begins his transfer from the wing. Five minutes later, just after his transfer is complete, the voice of Tanker Control again summons his attention. "303, dump max trap; you're cleared to switch to Approach Control." Charlie's earlier apprehensions now become a state of anger. Not only does he have to dump 4,000 pounds of fuel which will be charged to the squadron, but he has to make an immediate landing for which he is not psychologically prepared. Without hesitation, LTJG Charger's can-do spirit takes over as he switches to Approach Control. "303, you're cleared downwind, heading 250 degrees; descend to angels 1.2." OK, Charlie thinks, I've got to get rid of this gas. He then realizes he cannot transfer the gas out of the buddy store since he's got a nearly full fuselage tank. Charlie swears to himself as he glances down at the tanker control box and wonders how anyone can design a cockpit control box so poorly as to not include night lighting. He selects console lighting to bright and begins dumping fuel from the tanker store. Suddenly, the radar altimeter goes off. Holy smoke, thinks Charlie, good thing I put that bug on 1,200 feet.

"303, turn left to intercept final bearing of 060." Fortunately, tonight it's clear and Charlie can see the ship.

By LT F. A. Hoggatt
VA-146

As he intercepts the glide slope, Charlie looks down to see that he has only dumped 1,000 pounds, and the fuel is dumping at a slow rate. No problem, Charlie thinks, by the time I trap, it'll be close to empty. "303, drop your hook." Again, Charlie's attention is diverted from the task at hand as he thinks about the bottle of booze he must provide the LSOs, let alone the embarrassment he'll face in the readyroom afterwards. An alarm rings in Charlie's head as he remembers to secure his dump. "Right for lineup, power, power." Wham, Charlie plants it down for a tanker 1 wire, *no grade*. "303, secure your dump," shouts the air boss. Charlie frantically begins checking his switches as again the air boss bellows his chant, "303, secure your dump." Charlie quickly taxis clear of the landing area as a yellow shirt begins banging on the side of his airplane signaling him to secure his dump. Charlie doublechecks his dump switch again, and it indeed is in the OFF position. He raises his arms to signal his helplessness to the yellow shirts. Miraculously, the fuel spill stops and Charlie shuts down with a sigh of relief.

Charlie walks into the readyroom to find the CAG LSO waiting impatiently to advise him that his *no grade* was changed to a *cut pass* by the air boss when he discovered that Charlie hit the 1 wire 17 feet left, which necessitated pulling the wire. This little conversation was immediately followed by the handler's phone call advising him if he ever dumps fuel on HIS deck again he'll be out there cleaning it up himself.

Unfortunately, this is an all too typical story of how a can-do attitude can affect better judgment. LTJG Charger subsequently discovered that powerplants had neglected to install the dump hose on the tanker store after it was found to be severely cracked. Charlie had not received the *gouge* to preflight this item, and its absence caused a very slow dump rate.

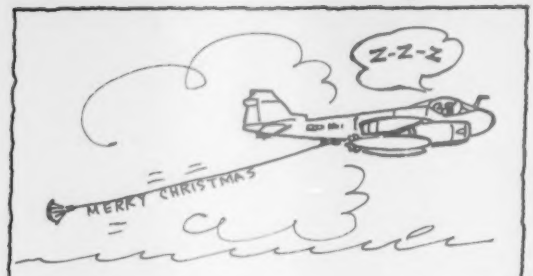
Charlie's second problem was that he failed to realize that once he launched on a tanker mission he belonged to Tanker Control until he had landed. Thus, when Charlie checked in with Tanker Control for the recovery, he was unaware of the airborne gas situation and already behind the events that followed.

The third and most significant factor was Charlie's can-do attitude. For Charlie, it was imperative that he land the airplane expeditiously since he knew the deck was being held clear for him alone. To do a 360-degree turn to dump fuel would be admitting to the ship that he was behind the situation, thus lowering his image. Of course, this perceived image is a figment of Charlie's imagination.

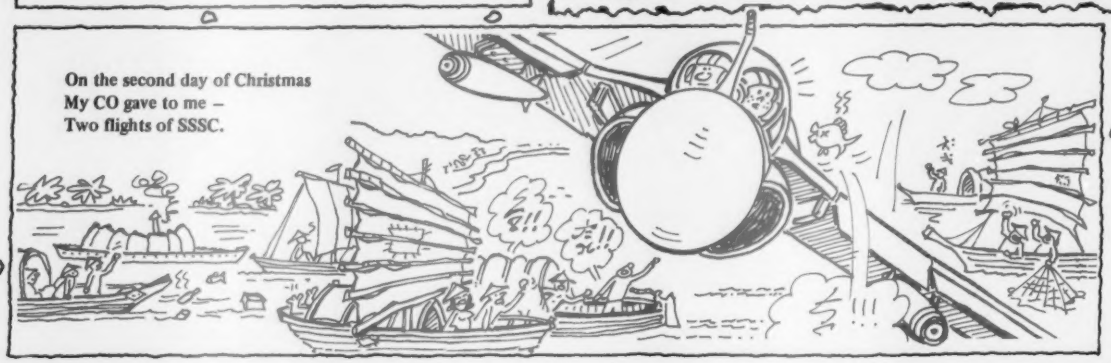
This time Charlie was lucky; he knowingly set himself up for an asymmetrical landing that could have severely damaged his aircraft and/or personnel and material aboard ship, not to mention the obvious results of a ramp strike. Inexperience and misperceptions caused LTJG Charger to juggle too many variables at once. How many times have we heard the axiom: Aviate, Navigate, Communicate? We could include the movement of fuel as number 4, and not before. Can-do means exactly that – you can do the mission and complete the mission in a safe, professional manner. ◄

LT RIC

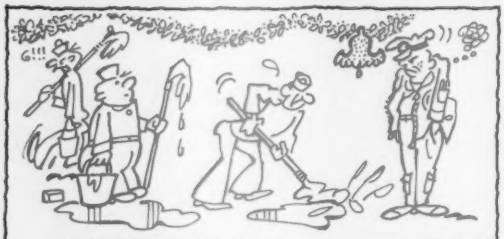
12 DAYS O



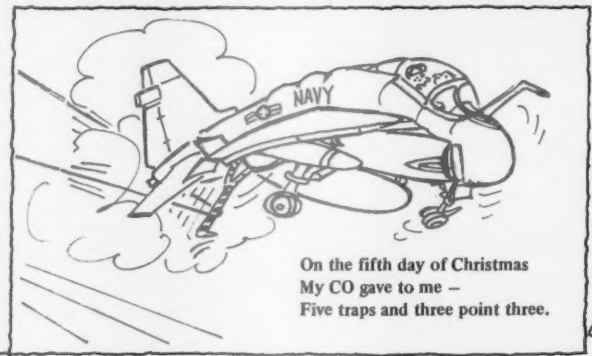
On the first day of Christmas
My CO gave to me –
A tanker hop for five point three.



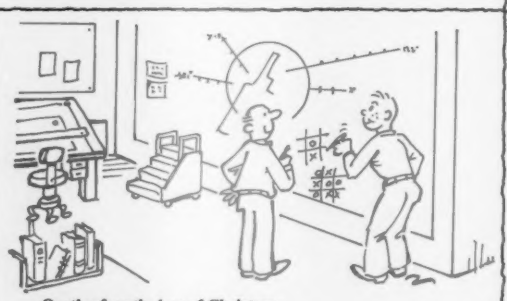
On the second day of Christmas
My CO gave to me –
Two flights of SSSC.



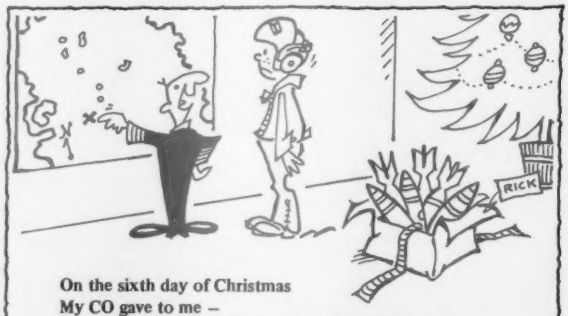
On the third day of Christmas
My CO gave to me –
Three hours of extra duty.



On the fifth day of Christmas
My CO gave to me –
Five traps and three point three.



On the fourth day of Christmas
My CO gave to me –
A special detail in CIC.

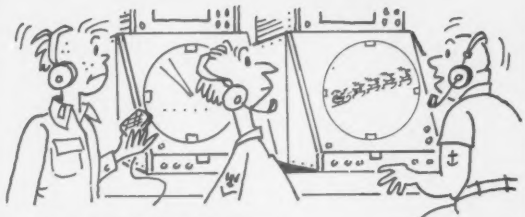


On the sixth day of Christmas
My CO gave to me –
Six practice bombs and a big blue piece of sea.

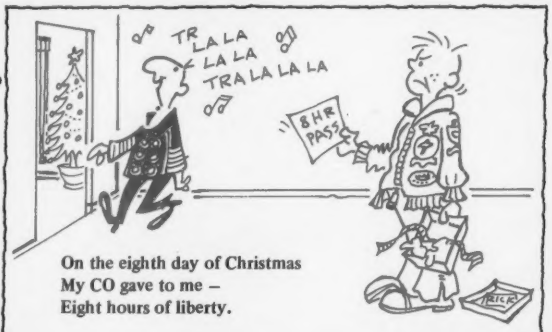
CK LIPCHICK'S

OF CHRISTMAS

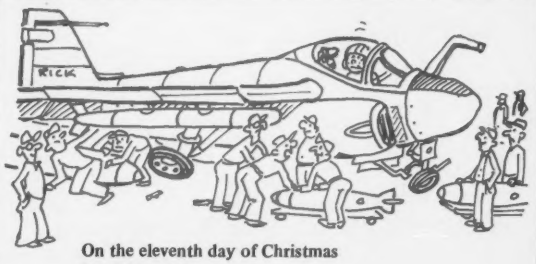
On the seventh day of Christmas
My CO gave to me –
Shore patrol in Sicily.



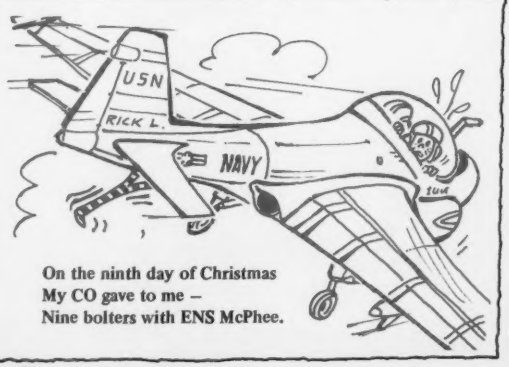
On the tenth day of Christmas
My CO gave to me –
Ten hours in CATCC.



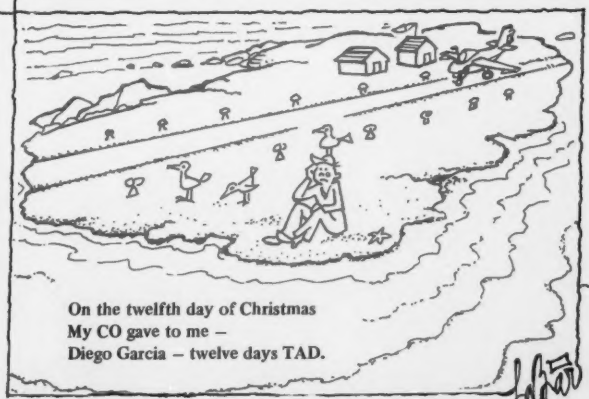
On the eighth day of Christmas
My CO gave to me –
Eight hours of liberty.



On the eleventh day of Christmas
My CO gave to me –
Eleven AOs and a dirty A-6E.



On the ninth day of Christmas
My CO gave to me –
Nine bolters with ENS McPhee.



On the twelfth day of Christmas
My CO gave to me –
Diego Garcia – twelve days TAD.

Dedicated to everyone at sea over the holiday season. – Ed.

THE NAVAL AVIATION

An Introduction to OPNAVINST 3750.6 Mike

The principal naval aviation safety directive is OPNAVINST 3750.6L, Naval Aircraft Mishap Reporting Procedures. CNO has announced that OPNAVINST 3750.6L will be superseded on 1 January 1981 by OPNAVINST 3750.6M, The Naval Aviation Safety Program. The new instruction contains the most significant changes in naval aviation safety since the formal "hard copy" Aircraft Accident Report yielded to the message reporting system in 1974. There are many major and minor changes in the revised instruction. This article will cover only a few of the more significant modifications.

Purpose and Scope. The title of the new instruction is an indication of its scope. For the first time, we have a publication which describes the entire naval aviation safety program. It also explains where the safety program fits with other programs and requirements, such as the naval aviation maintenance program, the NATOPS Program, reporting of Navy and Marine Corps non-aviation mishaps, and OPREP-3 reporting. The responsibilities of everyone involved in the program are described—from DCNO (Air Warfare) and DC/S (Aviation) HQMC, down to each individual in naval aviation.

Program Concepts. The essence of the program is found in a half-dozen sentences on the first page, and these basic purposes and objectives are the basis for all provisions of the instruction:

> *"The purpose of the Naval Aviation Safety Program is to preserve human and material resources. The program enhances operational readiness by preserving the resources used in accomplishing naval aviation missions."*
>
> *"The purpose of the Naval Aviation Safety Program is accomplished by the prevention of damage and injury."* What is the objective of the program? *"Potential causes of damage and injury are termed hazards. The objective of the Naval Aviation Safety Program is to eliminate hazards."*

The value of this clearly stated guidance becomes apparent in a brief comparison of the concepts in the old and new instructions.

Premishap Hazard Elimination. Old *incident reports* were essentially reports of minor historical events. They may or may not have identified a potential cause of damage and injury (a *hazard*). The new instruction emphasizes the direct reporting of hazards (via Hazard Reports). In other words, the program is not so interested in what happened as it is in *what is wrong and what needs to be done about it.* In premishap situations, the emphasis is thus directly focused on the objective of the program: the elimination of potential causes of damage and injury.

Postmishap Hazard Elimination. If damage and injury are extensive, they are classified as *mishaps.* But mishaps often involve causes of damage and injury which are separate and distinct from the cause of the mishap itself. The old AAR emphasized the elimination of causes ("trigger events") of mishaps but neglected those hazards which may have caused damage and injury in the course of a mishap.

For example, an aircraft may have made a forced landing resulting in some minor impact damage. This mishap may have been caused by an improperly designed engine. If, after landing, the aircraft burned due to a fuel system which was not crashworthy, and some occupants were burned due to flight clothing which was not flame-resistant, we have three hazards, only one of which caused a mishap, but all three of which call for elimination.

The new instruction emphasizes the elimination of *all* hazards, including mishap causes *per se* – once again, focusing on the objective of the program.

With the basic concepts described above in mind, the separate provisions of the program all fall into place and are arranged in the instruction in the sequence in which they are normally used.

Command Aviation Safety Programs. Following the first chapter (general information), we find a description of command aviation safety programs. The safety functions required of naval aviation commands are specifically spelled out, but the methods by which they may be accomplished are largely at the discretion of the command. The functions are aligned with the objective

SAFETY PROGRAM

of the program and include hazard detection, hazard elimination, and safety information management.

Hazard Reports. The elimination of a detected hazard is accomplished through a number of steps. Following detection, the first step in elimination is frequently the reporting of the hazard. The tool for this action is the Hazard Report (as previously mentioned). A complete description of this report is provided in Chapter 3 of the instruction, and includes submission criteria, deadlines, addressees, and several message report formats. A great deal of latitude is provided to the originator in the submission of these reports.

Mishap Classification. In Chapter 3, it is pointed out that "The naval aviation safety program is designed to identify and eliminate hazards before they result in mishaps. If this effort were completely successful, there would be no mishaps." Acknowledging the slim likelihood of this eventuality, however, the instruction follows with a chapter on mishap classification. The classification of mishaps under the new instruction is completely new, and this change calls for some background explanation.

Several years ago, the Department of Defense published a requirement that all services report to DOD by using a common mishap classification criteria. The Air Force immediately required its units to report mishaps under that criteria. Until recently, both the Army and the Department of the Navy have continued to require units to report mishaps under their own service criteria, and they have translated that data into the DOD criteria for reports to DOD. This year, the Army switched entirely to the DOD criteria. Consequently, the Department of the Navy is the only component still using two separate reporting criteria. The new instruction incorporates the common DOD criteria throughout the fleet, enabling direct interservice accident rate comparisons.

Under the old system, intent for flight determined whether we had a Ground Accident or an Aircraft Accident. In this respect, the new criteria is slightly more complex. With no intent for flight, we have an Aircraft Ground Mishap (AGM). But with intent for flight, we either have a Flight Related Mishap (FRM) or a Flight Mishap (FM), depending on whether or not aircraft damage occurred. A crunch on the hangar deck would be a Ground Mishap. Taxiing over a piece of GSE gear, without damage to the aircraft, would be a Flight Related Mishap. Taxiing over the side would be a Flight Mishap (see Fig. 1).

Continued

MISHAP CATEGORIZATION

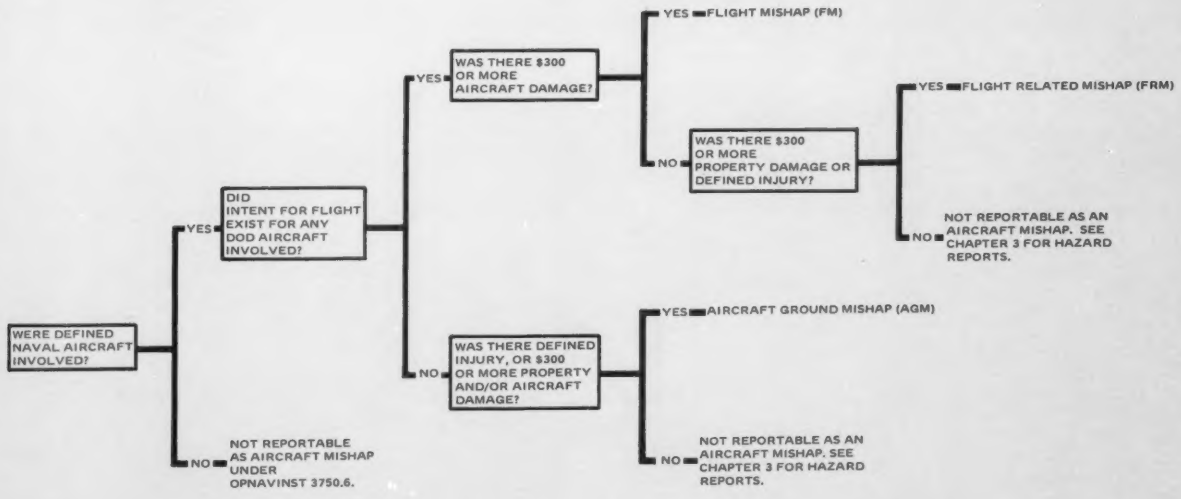

WERE DEFINED NAVAL AIRCRAFT INVOLVED?
YES
DID INTENT FOR FLIGHT EXIST FOR ANY DOD AIRCRAFT INVOLVED?
YES
WAS THERE $300 OR MORE AIRCRAFT DAMAGE?
YES
FLIGHT MISHAP (FM)
NO
WAS THERE $300 OR MORE PROPERTY DAMAGE OR DEFINED INJURY?
YES
FLIGHT RELATED MISHAP (FRM)
NO
NOT REPORTABLE AS AN AIRCRAFT MISHAP. SEE CHAPTER 3 FOR HAZARD REPORTS.
NO
WAS THERE DEFINED INJURY, OR $300 OR MORE PROPERTY AND/OR AIRCRAFT DAMAGE?
YES
AIRCRAFT GROUND MISHAP (AGM)
NO
NOT REPORTABLE AS AN AIRCRAFT MISHAP. SEE CHAPTER 3 FOR HAZARD REPORTS.
NO
NOT REPORTABLE AS AIRCRAFT MISHAP UNDER OPNAVINST 3750.6.

Fig. 1

Aircraft Ground Mishaps, Flight Mishaps, and Flight Related Mishaps are mishap *categories*. The remaining step in mishap classification is severity classification – the counterpart of the old "major" and "minor" accident classes. New classes are lettered: Class A Flight Mishap; Class C Aircraft Ground Mishap, etc.

The new criteria totals the cost of three items to obtain a mishap severity classification: aircraft damage, property damage, and injury. Class A mishaps are $200,000 and up, Class B mishaps are from $50,000 to $199,999, and Class C mishaps are from $300 to $49,999.

An example illustrates how a mishap would be classified under the old and the new criteria:

During a low-level run-in, an attack aircraft strikes an observation tower at a Navy target. Damage to the aircraft is limited to the horizontal stabilizer (cost $40,000), and requires its replacement (400 man-hours). Damage to the tower is $3,000. An enlisted observer in the tower receives an injury resulting in permanent partial disability. Under the old criteria, the man-hours for replacement of the horizontal stabilizer would alone require classification as a minor aircraft accident. However, since a horizontal stabilizer is a major component, the classification would be a major aircraft accident. Damage to anything besides the aircraft and injuries were not addressed under OPNAVINST 3750.6L mishap criteria.

Under the new criteria, the total loss due to the mishap is measured in dollars by totaling three costs:

- aircraft damage $43,200
  (man-hours at $8/hr = $3,200 + cost of parts)
- other property damage . . . . . $ 3,000
- injury costs $34,000
  $80,200

Thus, under the new criteria of OPNAVINST 3750.6M, we have a Class B Flight Mishap.

Mishap Reports. After determining the category (FM, FRM, AGM) of a mishap and completing an initial estimate of its severity (A, B, C), the aircraft reporting custodian submits the first report required on the occasion of a mishap – the Mishap Report (essentially an announcement of a Class A or Class B mishap and not required for Class C mishaps). Mishap Reports replace the old Preliminary and Supplementary Reports of Aircraft Accidents. Mishap Reports are submitted by telephone and/or by message, depending on the severity

GENERAL REPORTING REQUIREMENTS

ON THIS OCCASION	THIS ACTIVITY	PREPARES THIS REPORT	FOR RELEASE BY THIS ACTIVITY	IN THESE FORMATS, BY THESE METHODS, AND WITHIN THESE DEADLINES			
				4 HRS	24 HRS	7 DAYS	14 DAYS
SEVERE HAZARD DETECTED	ANY ACTIVITY (AMB RECOMMENDED)	HAZARD REPORT	ANY NAVAL COMMAND		PRIORITY MESSAGE		
ROUTINE HAZARD DETECTED							ROUTINE MESSAGE
CLASS A MISHAP	ANY ACTIVITY	MISHAP REPORT	AIRCRAFT REPORTING CUSTODIAN	PRIORITY MESSAGE AND TELEPHONE	PRIORITY MESSAGE	ROUTINE MESSAGE	THESE REPORTS ARE SUBMITTED AT SEVEN-DAY INTERVALS UNTIL THE MISHAP INVESTIGATION REPORT IS SUBMITTED
CLASS B MISHAP					PRIORITY MESSAGE	ROUTINE MESSAGE	
CLASS C MISHAP				NONE REQUIRED			
MISHAP INVESTIGATION DETECTS SEVERE HAZARD	AIRCRAFT MISHAP BOARD	MISHAP INVESTIGATION REPORT	AMB APPOINTING AUTHORITY				PRIORITY MESSAGE (ENCLOSURES MAILED)
MISHAP INVESTIGATION DETECTS ROUTINE HAZARD							ROUTINE MESSAGE (ENCLOSURES MAILED)

Fig. 2

of the mishap.

Mishap Reports are updated every 7 days until a Mishap Investigation Report is submitted. Reported information which changes in those 7 days is changed in subsequent reports. Unchanged information is repeated so that the recipients may have all current information on the mishap in the most recent message.

A message report format is provided to aid originators during the hectic period immediately following a mishap. (A summary of reporting requirements is contained in Fig. 2.)

Mishap Investigations. As the Mishap Report is being prepared, the Aircraft Mishap Board (AMB) is getting underway on the mishap investigation. This board must now be appointed in writing by the aircraft reporting custodian. The AMB will be executing the unit pre-mishap plan which also is now a formal requirement for which a checklist is provided in the instruction. Most other aspects of mishap investigation remain unchanged from previous instructions.

Mishap Investigation Reports. When the mishap investigation is complete, the AMB submits a Mishap Investigation Report similar to the old AAR. Of all the previously mentioned reports, only the MIR is now privileged. All other provisions regarding privileged information remain unchanged in the new instruction, although they are much more clearly explained. Although similar, the MIR is a little different from the old AAR. The provision for a formal AAR has disappeared, as has the "decision message." "Hard copy" materials, previously submitted in response to guidance in the NAVSAFECEN "decision message" is now required under specific submission criteria, and although mailed, are designated as enclosures to the MIR. Enclosures are

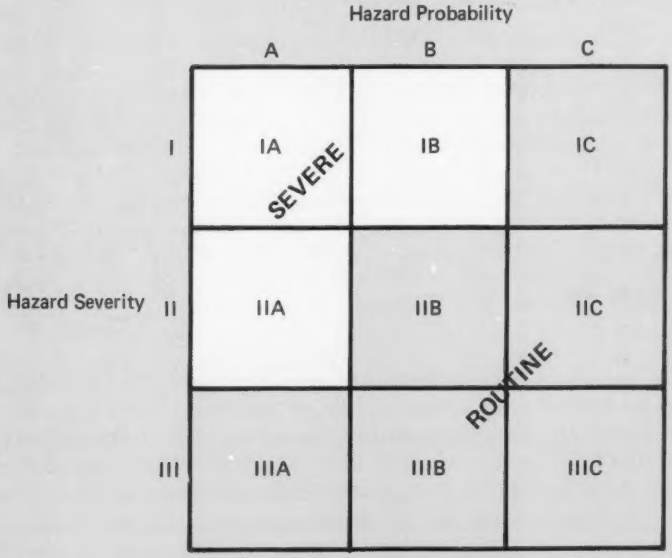
RISK ASSESSMENT CODES

Hazard Severity

Category I: Catastrophic: May cause fatal injury or loss of an aircraft.
Category II: Critical: May cause a defined naval aircraft mishap.
Category III: Marginal: May cause injury, aircraft damage, or property damage less than defined as a naval aircraft mishap.

Hazard Probability

Subcategory A: Frequent: Likely to occur frequently.
Subcategory B: Probable: Probably will occur infrequently.
Subcategory C: Occasional: May occur in time.



Risk assessment codes IA, IB, and IIA identify severe hazards.
Risk assessment codes IC, IIB, IIC, IIIA, IIIB, and IIIC identify routine hazards.

Fig. 3

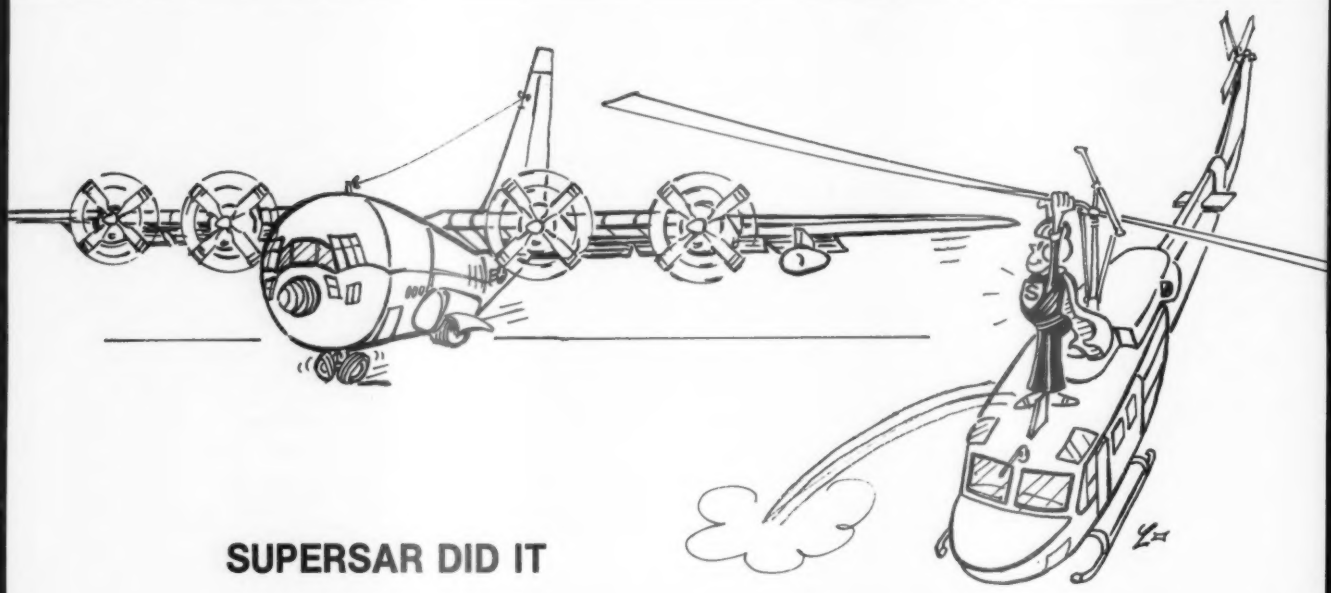
therefore a part of the MIR, and privileged, as are MIR endorsements.

Endorsements. Endorsements of Hazard and Mishap Investigation Reports are covered in Chapter 8 of OPNAVINST 3750.6M. This section will be of particular interest to upper echelon commands. Endorsement format, various prerogatives of the endorser, deadlines, and distribution are all explained. A handy endorsement guide is included at the end of the chapter.

Monitoring Corrective Action. Responsibilities for monitoring corrective actions to eliminate hazards are spelled out in the last chapter of the new instruction. The chapter also includes a description of the ARREC (Accident Report Recommendation) Program, which is a monitoring system for corrective action required by activities external or senior to the commands of aircraft controlling custodians.

A unique feature (among military aviation safety programs) of the new instruction is the use of Risk Assessment Codes by originators of safety reports. Risk Assessment Codes are alphanumeric expressions of the overall risk of a hazard. They combine the severity of a hazard and the probability of damage and/or injury from the hazard (see Fig. 3). This provides a way to distinguish between severe and routine hazards. In other words, it is a system whereby we assign priority to corrective actions to eliminate hazards. The instruction points out, however, that the priority given to correcting hazards with severe risk assessment codes should not detract from the elimination of other hazards. Rather, the priority should only identify which corrective actions should be accomplished first, if all cannot be undertaken immediately.

In summary, the advantages of the new OPNAVINST 3750.6M are that it is easier to use, and it provides a means to deal with all hazards in the naval aviation environment. A more open exchange of information is encouraged, and administration is made easier. We can now compare our record directly with other services, and we can better judge the progress of the program by having a more concise and realistic measurement of our losses.



SUPERSAR DID IT

A C-130 taxied to base operations between an Air Force C-130 and the station's duty SAR helo, a UH-1N. As the left wing of the C-130 approached the helo, the taxi director gave the pilot a hold signal. The pilot proceeded to taxi, however. A crewman then jumped out of a door (while the C-130 was moving) to walk the wing. He gave the pilot a come-ahead signal. The SAR crew chief jumped out of the UH-1N and gave the pilot another hold signal, which the pilot also chose to ignore. The SAR crew chief, realizing the pilot wasn't about to stop, climbed up on the helo cabin to raise the main rotor blade. The left wing of the C-130 passed between the cabin and the forward blade. (The blade was raised manually by the crew chief.) The C-130 wing missed the helo's rotor blade by less than 1 inch.

Saw-it-all mouse

OBSERVATIONS of an Aviation Safety Officer

By LT K. R. Edwards
VS-29

HAVING recently arrived in my squadron, fresh from my training as an Aviation Safety Officer (ASO), I was pleasantly surprised to find myself inheriting a 9-year accident-free safety record. Immediately I began an attempt to determine the whys and wherefores responsible for the squadron's safety success. Obviously, my contribution to the record was not a factor. What about my predecessor? What had he done to help the squadron reach this milestone? Again, it was obvious that he had not been solely responsible in his 3-year tour for 9 years of accident-free aviating. Apparently my answer lay in the safety program itself.

I began studying the causes and effects that a sound functional safety program can have. It must be the result of some form of synergistic effort – the effect of the whole being greater than the sum of the parts. If this was the case, then it would be natural to say that if something is working that well, don't fool with it. Certainly the safety record of the squadron bears testimony to just how good the program is working. Then, if a program is self-sustaining once started, why have an Aviation Safety Officer at all, or a safety department? After all, safety is an "all hands" function, and this record has been reached by being pretty much "hands off," right?

Wrong! Definitely wrong!

Certainly, it does require active safety awareness and conscientious application of sound principles in the performance of every individual's duty but no *one* person, or shop, or department causes a squadron to be safe. It really does become apparent on close scrutiny that a safety department is integral to the achievement of any safety milestone.

The ASO's job essentially is to ensure that everything does track as it should, not to be an omnipresent conscience or a form of "hammer" if things aren't done safely. The means by which the individual ASO achieves this goal in his squadron varies as much as the ASOs themselves. There are general guidelines that have proven to be effective and have been refined over time. These principles are introduced to the prospective ASO in a formal course of instruction presented at the Naval Postgraduate School, Monterey, California. During this course, the individual officer receives the basic tools and skills that will enable him to shape and define a safety program that will have the greatest applicability to his own squadron.

In this application of theory, the greatest challenge arises for the new ASO because he comes aboard inheriting a tried and proven (in most cases) safety policy. The new ASO is faced with attempting to successfully implement his own "new and innovative" brand of policies into a squadron that already has a functional safety program. Here is where individual initiative, coupled with the benefit of his training, must move to the forefront while still allowing common sense to prevail. It is true that "change for change's sake" is usually a waste of time and effort. It is doubly true in the realm of safety. Application of needed change is another thing entirely, but this can be an uphill struggle for the newly arrived ASO because he is unproven. Better first to determine why the good ideas and policies are working and where there are areas with room for improvement. Then, with all your *ducks* together, go ahead and apply your knowledge and the benefit of your observations.

So back to the original point – what does a 9-year safety record really mean? It really represents the ability of a command, through its many ASOs, to effectively communicate with and infuse in its people the spirit to excel and achieve, while maintaining a safe approach to the job.

The following article originally appeared in NAVY LIFELINE. It is presented here in adapted form to encourage some thought and vigilance on office and work center safety, whether aboard ship or on land. The office may seem rather tame compared to your aircraft, but care is still required to prevent needless injury.

THE OFFICE

NO matter how many accidents happen in office buildings, most people still consider the office a safe place to work. "Out there with all the aircraft and GSE and dangerous tools," some of us think, "that's where you have to be careful."

But some office accidents can match injury and lost time with many flight deck accidents.

Why do so many office accidents happen? One reason is because there are so many offices around. Even though most of us work around aircraft hazards every day, we also shuffle papers and answer the phone. Another reason is that an office job can become so routine that it's difficult not to get careless. How could you get hurt in such familiar surroundings?

Last year, Navy commands reported 241 office accidents to the Naval Safety Center. The people injured in these accidents missed more than 2,600 days of work.

Predictably, falls accounted for the biggest single category. Of 121 falls, accident reports attribute 45 to tripping and 53 to slipping.

As they entered or walked around their offices, workers tripped on these hazards: "bunched" carpet over a metal grate, protruding nails and wood screws, irregular wooden blocks set into the floor, the edge of a doormat, and a piece of metal left on the floor during renovation.

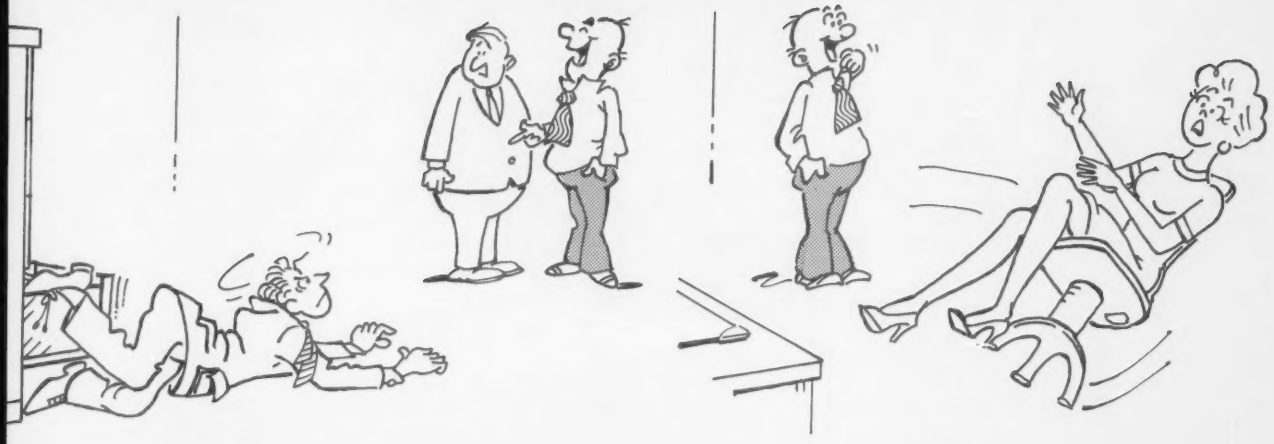
Common slipping hazards included floors wet with rain (10 reports), recently mopped or waxed floors (a dozen reports), and five spills (reports mention coffee, oil, and bug spray). NAVMAT P-5100 says, "Floors shall be kept dry during working hours."

Fourteen reports describe falls on stairways. In three cases, the injured worker was not using the handrail. In two instances, a stairway was dark when someone took a tumble. In one accident, a supply clerk fell several steps and missed 12 days of work with multiple cuts. When a local safety specialist investigated, he found that the tread covering and handrails did not meet Navy standards. The stairs had no nonskid on the treads, and the handrail was too low.

Forty-six office workers suffered back strains last year, the reports reveal. Eighteen people hurt their backs while lifting objects such as boxes of computer tapes or papers, typewriters, mail sacks, and books. Two people hurt their backs while moving office furniture.

OBSTACLE COURSE

By Derek Nelson
Naval Safety Center



Seven accident reports described eye injuries. In three cases, a worker suffered a cut or abrasion of his eye when struck by a piece of paper. One woman was reaching for some contract drawings on a shelf above her head. A drawing slipped through her fingers and struck her in the right eye. A systems analyst was stacking forms on top of a file cabinet when several sheets slipped from the middle of the stack. His corneal abrasion kept him away from work for 4 days.

Desks, chairs, and file cabinets figured into 23 reports during 1979. A contract specialist sustained abrasions to her right arm, ribs, and left hand when she opened the top drawer of a file cabinet, and the heavy cabinet tipped over on her. The material in the unsecured cabinet "was unevenly distributed," the report notes.

In another case, a file clerk was busy in the bottom drawer of a file cabinet. Someone else took a file from the top drawer and left the drawer open. Thunk! Three days on sick leave because of a neck sprain.

Stuck desk and cabinet drawers put three workers out of action. An equipment specialist yanked at a jammed drawer and strained his back (out 30 days). A management analyst suffered a cut leg when he pulled on a stuck drawer and the drawer suddenly came free out of its track.

A personnel specialist was leaving his desk when the phone rang. He paused to answer it, started to sit down again, and rapidly discovered his chair had rolled out from under him. A lumbar sprain kept him off work for 2 days. A shop planner swiveled around in his chair and struck his elbow on a cast iron drainpipe. He fractured a bone and was on restricted activity for 2 weeks. A typist was leaning back in her chair when it tilted backward. She fell to the floor, strained her neck, and cut her head. Fifteen days missed from work. Two other workers cut their knees on open desk drawers as they walked away from their desks. One cut was severe enough to cause the injured person to miss 12 days of work.

Telephone wires and various electric cords caused eight accidents. A supply clerk suffered multiple contusions when he tripped over a typewriter cord "in an aisle which was usually clear of obstructions," the report explained. A budget analyst carrying an empty glass tripped over some taped-down wiring and fell and struck a bookcase. The glass shattered, and he missed 19 days with multiple lacerations.

In another office a painter plugged a typewriter cord into a different receptacle when he finished his work. A clerk tripped over it, fell, and hurt her neck. She missed 25 days of work.

Continued

Two office workers hurt themselves because they didn't look where they were going. A clerk typist opened a door and ran into "a trash can which wasn't supposed to be there," the report explains. She cut her head on the edge of the door. A computer operator, walking backwards and pulling a hand truck, backed into two metal dollies blocking a door. He missed 14 days because of a back strain.

Elevators which stopped slightly below floor level decked two workers. An accounting clerk tripped and fell – cutting her chin and breaking several teeth. She was out for 11 days. The other elevator leveled a purchasing agent, who missed 9 days with a strained shoulder.

Obviously, offices aren't quite the safe havens many of us imagine. Office workers need to know the hazards, no matter how pedestrian those hazards appear. If you work in an office you should:

- Never leave a drawer open, and never open more than one drawer of a file cabinet at a time.
- Never sit in a tilted position in any chair.
- Never run inside any building. Do your jogging after work.
- Never walk and read at the same time.
- Use stairway handrails.
- Know the location of fire extinguishers and fire alarm boxes.
- Never stand on a table or chair to reach high objects (for example, to set a clock).

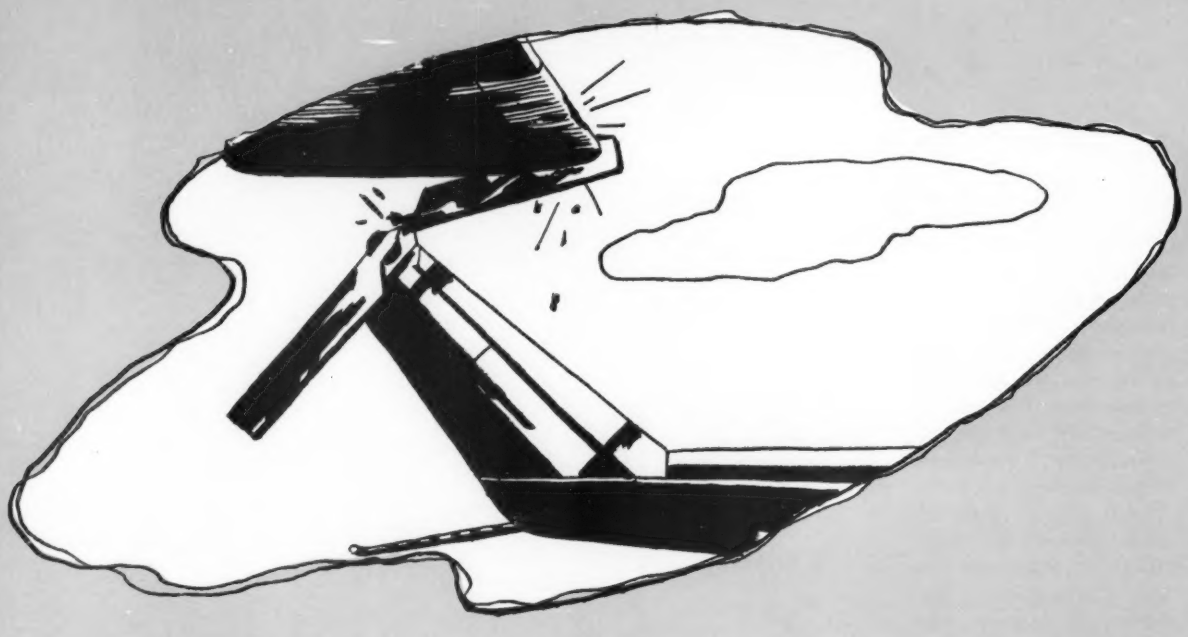
If you are shop supervisor or safety officer, you can help make offices safer. Make sure:

- Good housekeeping is maintained, materials are stacked in an orderly and safe manner, and no equipment or material is stored on the ground in walking areas.
- Aisles are ample and well-defined, and are kept clear.
- Abrupt changes in floor level are marked with the appropriate hazard markings.
- Floors are kept dry.
- Loose or torn floor coverings are repaired, removed, or replaced.
- Office machines and equipment are properly located, stable, and grounded, if necessary.

NAVMAT P-5100 points out, "Individual upright filing cabinets should be secured or anchored to prevent overbalancing." It also says, "Signs shall be posted on doors opening into passageways, reading: CAUTION, OPEN DOOR SLOWLY." Stairs more than 88 inches wide require a handrail in the center and on each side. Stairs 44 to 88 inches wide require handrails on both sides. And stairs 22 to 44 inches wide should have at least one handrail.

Office workers don't have to wear hardhats and safety shoes. But offices do contain plenty of hazards – we just need to learn to recognize them. ◄

PARK AT YOUR OWN RISK



THE crew of a UH-1E was on an authorized cross-country training flight to a civilian airport located in a midwestern city. The crew flew to the airport, landed, refueled, and conducted two out-and-in training flights.

At the end of the second hop, the crew was advised by a taxi director, employed by the civilian aircraft servicing company, that the UH-1E was to park in a grassy area adjacent to the paved ramp in front of their building. He further advised that the *Huey* was to park parallel to the pavement and close enough to the edge to allow for refueling.

The crew then departed on the third and last training flight of the day. At 1935, a final landing was made in the designated grassy area. No taxi director was available to assist in parking the aircraft, even though the IFR supplement indicated that service would be provided by the fixed-base operator until 2100. Upon securing the aircraft, the two pilots proceeded into the office of the aircraft servicing company while the crew chief remained behind to complete tiedown and postflight procedures.

As the crew chief was about to depart the aircraft, he noticed a *Convair 580* taxiing towards the *Huey*. It was obvious to him that the *Convair* lacked sufficient wing clearance to avoid colliding with the *Huey*, so he went to the edge of the ramp, waved his arms, and jumped up and down in an attempt to warn the pilot.

No such luck! The pilot didn't see him and the left wingtip of the *Convair* struck the UH-1E tail rotor blade, causing it to snap at the 90-degree gearbox. Factors which contributed to this ground accident follow:

- The civilian taxi director instructed the *Huey* crew to park in an area which was too close to the ramp to allow sufficient wing clearance between the helo and the *Convair 580.*
- The airport tower failed to notify the *Convair* pilot that the *Huey* was parked on the grassy area.
- The pilot and copilot of the *580* were inattentive to the exterior environment of their aircraft while taxiing. This was the real cause of the collision.
- The pilot in command of the UH-1E could have questioned the tower or ground control about the advisability of parking the *Huey* so close to the ramp, even though he had been instructed to do so by the taxi director.

This ground accident should remind all aircraft commanders that they have the right to question any procedure or order which may place their aircraft in jeopardy. As much as possible, they must use their experience and common sense to determine whether or not their aircraft are properly and safely secured. This is especially necessary when operating at civilian airfields that are not normally involved in military aircraft operations and servicing.

SURVIVAL/POSTBAILOUT PROCEDURES

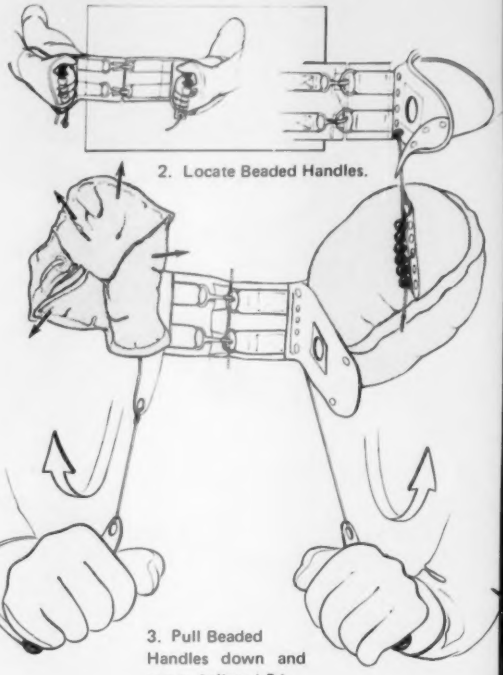
BACK TYPE PARACHUTE, STANDARD HARNESS WITH SEAT CUSHION, AND STANDARD SOFT PACK LR1 LIFERAFT ASSEMBLY – LPA INFLATION AND LIFERAFT DEPLOYMENT SEQUENCE.

By CDR Jack Greear, MSC
APTU-Norfolk
NAVREGMEDCEN
Portsmouth, VA

THE following scenario describes step-by-step procedures for inflation of the life preserver assembly (LPA/LPU) configured with beaded handles and 35 gram CO_2 cylinder and utilizing the standard soft pack LR1 liferaft assembly. The emergency bailout situation is a below (14,000 feet) high-altitude bailout (overwater) in which parachute deployment has been accomplished. Raft retention lanyard was attached to helo hoist V-ring prior to bailout.

These techniques are being published in advance of NAVAIR-00-80T-101 for two important reasons: first, so they will get to the fleet as soon as possible; and second, so that the project manager may receive any possible feedback on these procedures before NAVAIR-00-80T-101 is finally printed. Please forward any comments to: Commanding Officer, Naval Regional Medical Center (Code APTU-230), Portsmouth, VA 23708.

1. Immediately following opening shock of parachute, check the condition of the parachute canopy. If no malfunctions have occurred, proceed to next step.



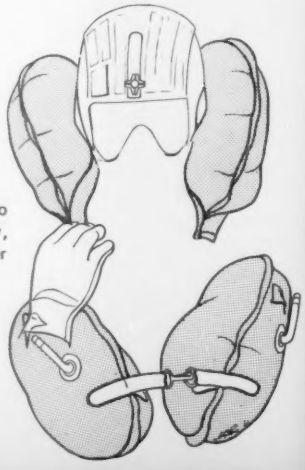
2. Locate Beaded Handles.

3. Pull Beaded Handles down and out to inflate LPA.

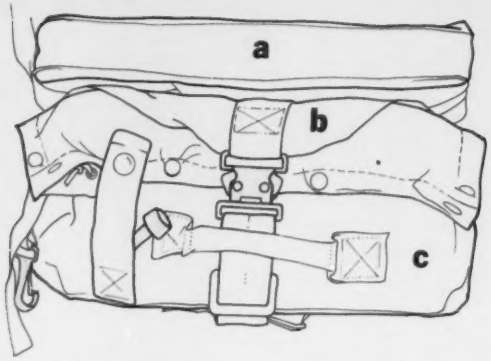
4. Remove chafing material (when required).

5. Snap LPA waist lobes together.

6. Squeeze LPA waist lobes together to help release Velcro on collar lobe, or



6A. Manually release Velcro on collar, if necessary, to achieve complete collar lobe inflation.



7. (a) Seat cushion and (b) standard soft pack with (c) combination carrying case and equipment container. (Note: Raft retention lanyard is to be hooked to the SV-2 helo-hoist ring.)

8. Ensure the raft retention lanyard is securely attached to helo-hoist V-ring. Then release the quick-disconnect shackle by squeezing release as indicated. This is difficult to reach. Consequently, it may be necessary to hold the pack up with the feet and legs as shown.

9. Grasp handle on combination carrying case and equipment container.

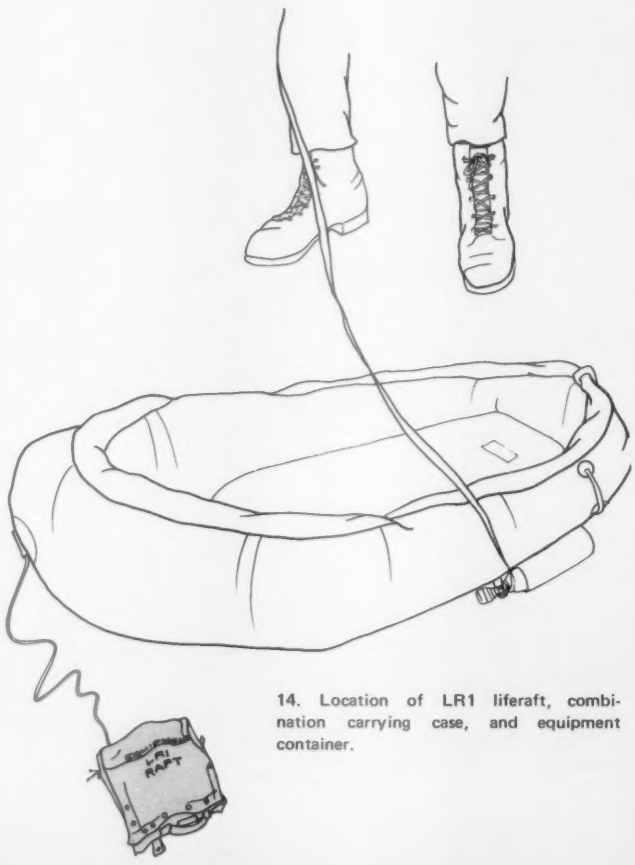
NOTE: Steps 8, 9, and 10 may require some repositioning in the harness seat strap to facilitate accomplishment.

10. Using two hands (if necessary), remove combination carrying case and equipment container from the standard soft pack.

11. Hold handle on combination carrying case and equipment container. Release red webbing by unsnapping.

12. Grasp inflation toggle assembly and pull firmly, as indicated.

13. Ensure raft retention lanyard is still securely attached to helo-hoist V-ring, then lower raft full 6-foot length to prepare for water entry.



14. Location of LR1 liferaft, combination carrying case, and equipment container.

Fire in flight prevented

THE crew of an SH-2F helicopter had just completed lowering some parts by hoist to the helo platform of a frigate. The hangar was extended with a parked helicopter inside. The airborne helo made one turn around the pattern and began an approach for a planned HIFR (helicopter inflight refueling) prior to returning to base.

The relative wind was reported at 25 degrees port and about 20 knots. The approach, hose pickup, and connection went according to SOP except that the sensor operator experienced some difficulty in connecting the Wiggins fitting to the helicopter inflight refueling port. After two or three attempts, however, the Wiggins fitting was properly connected to the aircraft's refueling receptacle.

In sequence, the sensor operator energized the switches to refuel, signaled for shipboard personnel to pressurize the hose, and put his hand on the quick-release handle. When the valve at the flight deck was opened, the pressure surged to 70 psi then stabilized at 50 psi. The sensor operator saw the shipboard personnel opening the valve further.

Within 3 or 4 seconds, the hose ruptured between the Wiggins fitting and the hoisting saddle. The sensor operator immediately activated the quick-release fitting and the hose fell clear. In the short interval between the rupture and the hose release, 5-10 gallons of fuel sprayed into the helicopter – soaking the sensor operator, the aft cabin deck and overhead, and spraying the right side and helmet of the copilot (left seat) and the cockpit windshield.

After activating the quick-release fitting, the sensor operator immediately turned off all electrical equipment in the aft cabin (they had been in standby during refueling), pulled all circuit breakers on the sensor panel, and manned the helo fire extinguisher. The copilot, when he saw the hose rupture, broadcast for the ship to secure fuel pumping. The pilot said he saw a cloud of fuel in the air at the helo's side.

As soon as the sensor operator reported that the release was activated and the hose was clear of the helicopter, the pilot transitioned to forward flight and orbited overhead. The sensor operator wiped up the fuel as best he could with a helmet bag, nav bag, and a seat cushion. He also tried to wash some of the fuel off his skin with water from the aircraft's canteen.

Meanwhile, the cockpit crew secured all unnecessary electrical equipment and headed for the beach. The flight to Homeplate was uneventful except for the personal discomfort of the soaked copilot and sensor operator. Several miles out, another squadron helicopter joined up and handled radio communications in the high-density approach area. This further reduced the fire potential by enabling the incident aircraft to discontinue radio transmissions. The crash crew was standing by as the helo landed and shut down without further problems. The copilot and sensor operator proceeded immediately to a squadron decontamination station and showered. No further medical treatment was required.

The crew was experienced and qualified. They responded to the emergency with timely and proper action – like pros would. They all were wearing their flight gear properly. The fact that their visors were down is highly significant since both the sensor operator and copilot had fuel spray on their visors.

Equally significant was the sensor operator's habit of placing his hand on the quick-release handle at the beginning of fueling. This habit saved valuable time in effecting the emergency breakaway. With fuel spraying in his face, he would have had difficulty locating the release mechanism. Considering the amount of fuel that sprayed into the helicopter in the very short time between hose rupture and emergency release, a few seconds spent locating the release would have resulted in many more gallons of fuel spraying into the helo and would have significantly increased the hazard of fire.

One other action by the crew proved very worthwhile. The flight had been a test-and-go, but after completing the test portion satisfactorily and before departing for the ship, the pilot stopped at the fuel pits and topped off. The additional fuel taken aboard before leaving Homeplate enabled them to make a safe return.

LETTERS
to the editor

For Heavies Only

NAS – Any junior officer who has achieved his aircraft commander designation is well acquainted with all the caveats, provisions, requirements, and criteria associated with the squadron's granting him his qualification. He is a newcomer and as such is made well aware that he must measure up to some clear guidelines in order to be considered on a par with the senior fleet fliers. Responsibility and total familiarity with all applicable procedures and techniques are highly stressed.

Unfortunately, with all the emphasis placed on these valid concerns, I have noticed a repeated leniency in granting aircraft commander designations to PXO/PCO type personnel. While they may certainly have the benefit of experience, there is no justification whatsoever in "bending the rules" or relaxing the standards when it comes time to grant a qual to the CO or his relief.

A primary consideration of any aircraft commander, particularly during peacetime, is the safe conduct of the flight. I believe that the "good ol boy" approach to easing the requirements for this most important designation is a disservice to all legitimate aircraft commanders and to the personnel that are to be transported in the squadron's aircraft.

As a JO, this is a subject too ticklish to broach directly to the squadron front office, and middle management is often willing to *grin and bear it* so as not to make waves. I hope COs will recognize this practice for what it is and police themselves and their XOs accordingly. That's what I consider *responsibility*.

Name Withheld

● Senior officers who expect or accept a relaxation of rules in order to achieve their personal flight qualifications are practicing a dangerous form of leadership. Their ultimate reward will be a poor attitude toward flight discipline throughout their commands.

Amazing Coincidence

MCAS Beaufort – I recently enjoyed reading the article " . . . . and then there were none" again in your JUL '80 issue. Each time it is reprinted, it brings home many points regarding preplanning and aviation safety.

As a boy about 10 years old, I lived at Bonny Dam in eastern Colorado. The evening of the ill-fated flight, I was in the backyard and watched what was apparently aircraft No. 4 land on the dam. I hurried inside to tell my parents "a jet was driving on the dam." With a good bit of skepticism, they checked, and sure enough, the F-9 was completing its rollout. Upon reaching the end of the dam, the pilot taxied around a curve toward the buildings mentioned (my house among them), but a wingtip contacted the ground rounding one of the banked turns. Two tractors were required to tow the aircraft clear of the road.

Your story was quite accurate in that the Bureau of Reclamation official (Max Meyer) was irate until he realized the pilot had little other choice. I suspect this was brought on primarily because the jet had to pass over his quarters, at the other end of the dam, at 100-150 feet to touch down immediately after the spillway (and curve) in the dam.

Actually the water is about 125 feet below the top of the dam – about as far as a boy can throw a rock. The aircraft also landed from north to south with the water west of the dam. Consequently, the aircraft in the sketch should have been reversed. The pilot landed within an inch of "centerline" as both wings were damaged in the same places by the guardrails – a commendable feat on a gravel "runway."

I have always enjoyed this article, both because of my personal involvement and because there is a lot to be learned from situations of this nature. I was pleased to see it was selected for your 25th anniversary issue.

Enclosed is a photograph of the aircraft involved. Please return the photograph when you are finished with it since it is irreplaceable and of sentimental value to my family.

Maj Bruce E. Poley
VMFA-251, MAG-31

P-3 Photo Wanted

NAS Moffett Field – I am trying to locate a photograph of a P-3 *Orion* aircraft flying over an aircraft carrier. I am not particularly concerned whether or not it is in color or black and white, but would like one approximately 8 x 10 inches. Any assistance you can provide will be greatly appreciated.

ATC Joe Cloud
P.O. Box 325
NAS Moffett Field, CA 94035

● We drew a blank in our photo files, but we hope one of our readers has what ATC Cloud wants.

APPROACH welcomes letters from its readers. All letters should be signed though names will be withheld on request. Address: APPROACH Editor, Naval Safety Center, NAS Norfolk, VA 23511. Views expressed are those of the writers and do not imply endorsement by the Naval Safety Center.

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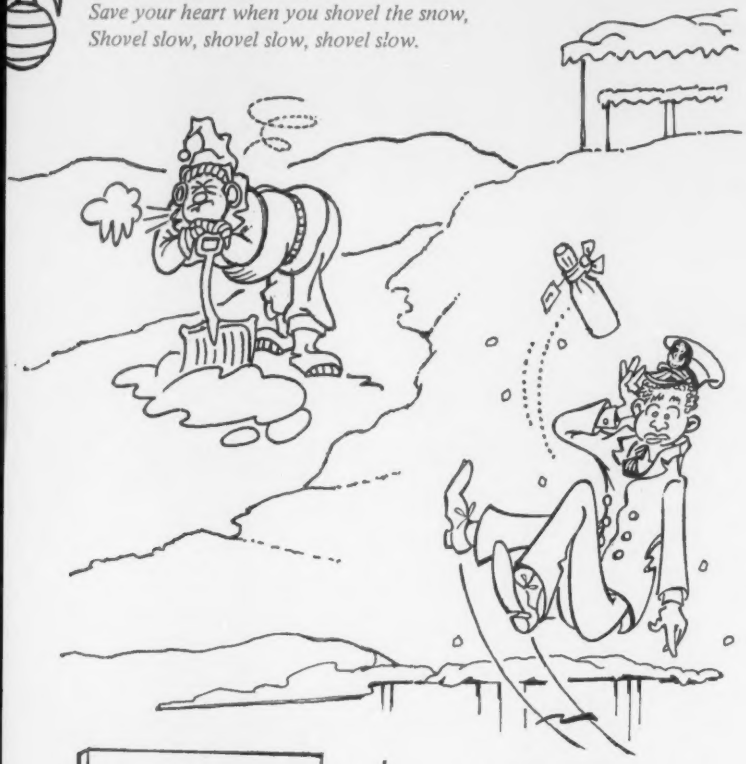
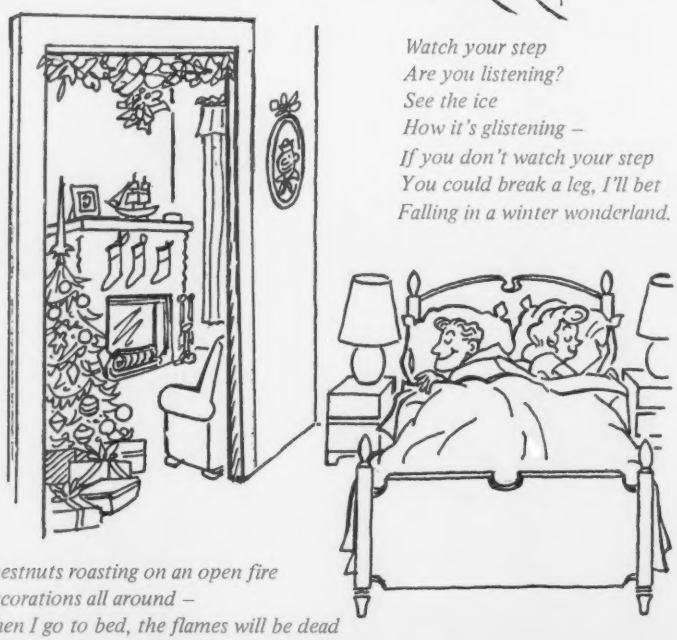
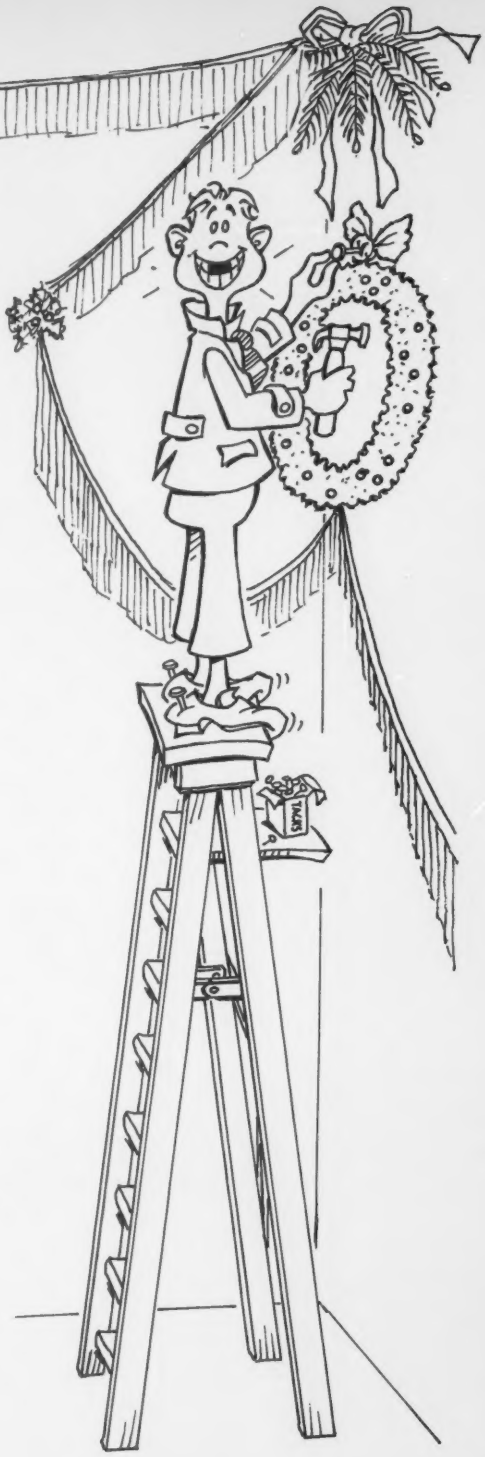
The weather outside is frightful,
The snow has heaped aright full.
Save your heart when you shovel the snow,
Shovel slow, shovel slow, shovel slow.



Watch your step
Are you listening?
See the ice
How it's glistening –
If you don't watch your step
You could break a leg, I'll bet
Falling in a winter wonderland.



Chestnuts roasting on an open fire
Decorations all around –
When I go to bed, the flames will be dead
And all can sleep safe and sound.



All I want for Christmas is my two front teeth
My two front teeth, my two front teeth.
So I will use a ladder when I decorate
To avoid an upper plate!

THE FINAL WORD

In the U.S. last year,
4076 people died of gas:
29 inhaled it,
47 put a match to it,

and 4000 stepped on it.
For life's sake, slow down!